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(54) Title: SECRETED PROTEINS AS MARKERS FOR CELL DIFFERENTIATION

(57) Abstract: Provided are means and methods for in vitro and in vivo detection of chemically induced effects on embryonic development and differentiation for the purpose of embryotoxicity/teratogenicity screening as well as for the identification of pharmaceuticals such as growth and tissue promoting factors based on differentiating pluripotent embryonic stem (ES) cells. The assays are based on the use of transgenic ES cells and non-human animals comprising such ES cells or derivatives thereof, wherein said ES cells are characterized by the differentiation-dependent expression of a secreted reporter protein; in particular secreted embryonic alkaline phosphatase (SEAP).